

## CLAIMS

What is claimed is:

1. Arrangement for carrying out a method for controlling a multi-phased and reversible rotating electrical machine, associated with a heat engine of a vehicle, specifically, an automobile, including a network for supplying electrical energy and a battery serving as a source of electrical energy connected to this network, as well as a command and control unit for the said electrical machine, in which overexcitation of the machine [1] for a predetermined period of time causes the production of energy, and makes this energy available for the execution of certain functions associated with the vehicle, characterized in that it includes a device for supplying the energy produced during the predetermined period of time of overexcitation of the machine; in that the device for supplying the energy is an energy storage device [9] that can be connected to the rotating electrical machine [1] by means of a switching device [6], in that it includes a DC to DC device [4] which device is mounted between the energy supply battery [2] and the energy storage device [9], downstream from the switching device [6], in that it includes a circuit [7] that can directly connect the rotating electrical machine [1] to the battery [2], and in that a switch [T1] is provided in the above-mentioned circuit [7]
2. Arrangement according to Claim 1, characterized in that the switch advantageously consists of a MOSFET transistor [T1].
3. Arrangement according to Claim 2, characterized in that the switching device [6] is a static switch device.
4. Arrangement according to Claim 3, characterized in that the energy storage device [9] is a capacitor device, advantageously consisting of a supercapacitor with low internal resistance.
5. Arrangement according to Claim 4, characterized in that the switching device includes two transistors [T1] [T2], advantageously of the MOSFET type, which are mounted head-to-tail in the output circuit of the rotating electrical machine [1].

6. Arrangement according to Claim 1, characterized in that the switching device [6] consists of a diode [D], with a switch [R] mounted in series with the said diode.
7. Arrangement according to Claim 6, characterized in that the above-mentioned switch [R] consists of an electromagnetic relay.